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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,159	01/27/2005	Ryousuke Amano	450100-05073	6467

7590 05/14/2008
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EXAMINER

HSU, AMY R

ART UNIT	PAPER NUMBER
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2622

MAIL DATE	DELIVERY MODE
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05/14/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,159	Applicant(s) AMANO, RYOUSUKE	
	Examiner AMY HSU	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection. Applicant has amended independent claims 1 and 4 by adding a timing generating means and defining a first and second time period based upon the first and second modes defined in the original claims 1 and 4. Since the amendments modify the claims, specifically the original search did not cover a timing generating means and related details, then a new search and rejection are necessitated.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okino et al. (US 5019911) in view of Suzuki et al. (US 6515703).

Regarding Claim 1, Okino teaches an image pick-up apparatus (*Col 1 Line 50*) comprising: a solid-state image pick-up device for performing photo-electric conversion in accordance with a received image pick-up light (*Fig. 1 reference number 5*); switching means for performing switching between first mode serving as image pick-up mode where charges stored in the solid-state image pick-up device are read out every

n (n is natural number) frames to output a CCD (Charge Coupled Device) output signal and second mode serving as image pick-up mode where charges stored in the solid-state image pick-up device are read out every m (m is natural number) fields (*Fig. 10a reference number 204 and Col 7 Lines 61-65*) to add odd charges and even charges which are adjacent in a vertical direction of the charges which have been read out while changing the combination thereof every m fields to output a CCD (Charge Coupled Device) output signal (*Col 3 Line 64 through Col 4 Line 3*); and control means (*Fig. 1 reference number 10*) for controlling the switching means in such a manner to switch the image pick-up mode of the image pick-up apparatus into the first mode in accordance with image pick-up request at a low output sensitivity, and to switch the image pick-up mode of the image pick-up apparatus into the second mode in accordance with image pick-up request at a high output sensitivity (*Col 4 Lines 56-68 teaches the field mode is selected when light quantity is insufficient, or high output sensitivity is needed, and the frame mode is selected when light is sufficient, or low output sensitivity is needed*). Okino briefly touches on details related to timing in Columns 3 and 4 but does not teach specifics so one of ordinary skill in the art would look to prior art for more concrete teaching. Suzuki teaches a similar image pickup device where the user can operate a mode switching circuit to choose and frame or field mode (*See Fig. 1*). Suzuki teaches a timing generating means (*Fig. 1 reference number 2, timing signal generator*) generating a signal (a) to read out the charges stored in the solid-state image pick-up device and to store the read out charges in a storage means during a first time period and (*Col 15 Line 55 through Col 16 Line 35 teaches a timing*

chart with reference to Figs. 15-17 for field reading mode and frame reading mode, and teaches reading out the charge and charge storage) (b) to not read out the charges from the solid-state image pick-up device and to output the charges stored in the storage means during a second time period (in the timing chart, after the charges are read, they are transferred out, Col 16 Lines 35-40), wherein the first and second time periods are based upon the first and second modes (Fig. 1 shows the timing signal generator, reference number 2, which controls the timing periods receives an input of frame or field from the mode switching circuit, therefore the time periods are based upon the modes as is further described with reference to Figs. 15 and 16 which are the different timing charts for field or frame readout mode).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Okino with that of Suzuki because frame and field are different units and require different timing to carry out proper readout and storage procedures as Suzuki addresses. Given that Okino teaches a frame and field readout mode in the device, one of ordinary skill in the art would look to prior art such as Suzuki to find the details of timing to control the two modes in order to give the user options by choosing one mode over another, such as increased vertical resolution.

Regarding Claim 2, Okino teaches the image pick-up apparatus as set forth in claim 1, comprising: gain adjustment means for adjusting gain of an image pick-up signal outputted from the solid-state image pick-up device (*Col 3 Lines 16-19 teaches adjusting gain for the signal in the signal processing circuit, reference number 6 in Fig.*

1, which receives the outputted signal from the solid state image pick-up device, reference number 5), wherein the control means controls the switching means so as to switch the image pick-up mode of the image pick-up apparatus into either the first mode or the second mode in accordance with the gain adjusted by the gain adjustment means (Col 3 Lines 16-19 teach the control circuit performs changing of the sensitivity by adjusting the gain which accordingly determines which mode is selected based on the sensitivity).

Regarding Claim 3, Okino teaches the image pick-up apparatus as set forth in claim 1, wherein the control means controls the switching means so as to switch the image pick-up mode of the image pick-up apparatus into either the first mode or the second mode in accordance with storage time of the charges stored in the solid-state image pick-up device. Fig. 3 Step S8 shows the point in the apparatus' operation where either the field pickup mode or the frame pickup mode is chosen, and this choice is made in accordance with, or depending on, the steps that precede step S8. At Step S4, the control circuit checks if there is sufficient light, if there is not sufficient light the flow moves to step S6 where a storage time, T_o , is passed before closing the shutter and determining sufficient light which leads to the choice between field and frame pickup mode. In this way, the control means controls the switching means to switch between field and frame pickup mode in accordance with the storage time since Fig. 3 depicts the choice in step S8 is in accordance with the preceding steps such as step S6 involving storage time.

Claim 4 is a method claim corresponding to Claim 1 and is therefore rejected similarly.

Claim 5 is a method claim corresponding to Claim 2 and is therefore rejected similarly.

Claim 6 is a method claim corresponding to Claim 3 and is therefore rejected similarly.

Regarding Claim 7, Okino in view of Suzuki teach the image pick-up apparatus set forth in claim 1, further comprising an image processing means (*Fig. 1 reference number 7, image signal processing circuit*) for processing the charges output from the solid-state image pick-up device during the first time period and for processing the charges output from the storage means during the second time period (*processing is controlled by reference number 7 in the first and second time period which are addressed with Claim 1*). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Okino with that of Suzuki to include an image processing circuit in order to control the signals processed during the reading and store and transfer in accordance with the timing generator.

Claim 8 is a method claim corresponding to Claim 7 and is therefore rejected similarly.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nishiki et al. (US 5187584) teaches a sold state imaging device performing interlaced scanning in a frame storage mode and field storage mode.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HSU whose telephone number is (571)270-3012. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Ho can be reached on 571-272-7365. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tuan V Ho/
Primary Examiner, Art Unit 2622

ARH 5/12/08